

WHAT IS CLAIMED:

1. An embolic filtering system used to capture embolic debris in a body vessel, comprising:

an expandable filter assembly including a self-expanding frame moveable between an expanded position and an unexpanded position;

a filtering element attached to and movable with the expandable filter;

a sheath having a distal end portion and a proximal end, the distal end portion of the sheath being adapted to receive the expandable filter assembly for maintaining the filter assembly in the unexpanded position and being movable to expose the filter assembly; and

a torque device mountable on the elongate member to allow the user to rotate the elongate member, the torque device having a side port adapted to receive the proximal end of the sheath to shear the sheath from the elongate member through retraction of the sheath through the side port.

2. The embolic filtering system of claim 1, wherein the sheath includes a split seam extending therethrough from the proximal end to a location proximal to the distal end portion to enhance the ability of the sheath to shear as the sheath is retracted through the side port.

3. The embolic filtering system of claim 1, wherein the torque device includes:

a handle with a lumen extending therethrough for receiving the guide wire;

means associated with the handle for holding the guide wire within the lumen of the handle; and

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an extension arm extending from the handle which includes a distal end having an opening adapted to receive both the guide wire and the sheath, the end of the extension arm being disposed longitudinally away from the side port.

4. The embolic filtering system of claim 3, further including a tubular member extending distally from the distal end of the extension arm which includes a lumen aligned with and in communication with the opening of the distal end that is adapted to receive the guide wire and sheath.

5. The embolic filtering system of claim 1, wherein the torque device includes:

a handle with a lumen extending therethrough for receiving the guide wire; and

means associated with the handle for holding the guide wire within the lumen of the handle, the side port of the torque device being formed on a removably mounted component which can be attached to either the handle or the holding means.

6. The embolic filtering system of claim 1, wherein the torque device includes:

a handle with a lumen extending therethrough for receiving the guide wire;

means associated with the handle for holding the guide wire within the lumen of the handle; and

a distal tubular member attached to and extending from the handle having a lumen aligned with and in communication with the lumen of the handle, the

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distal tubular member being adapted to receive the guide wire and sheath, the side port of the torque device being attached to the distal tubular member.

7. The embolic filtering system of claim 1, wherein the side port is located at an offset location from the axis defined by the guide wire.

8. A torque device for rotating a steerable guide wire and effecting the splitting of a sheath which is co-axially disposed over the guide wire, the torque device comprising:

a handle having a lumen extending therethrough for receiving the guide wire;

means associated with the handle to hold the guide wire within the lumen of the handle; and

a side port adapted to receive the proximal end of the sheath to remove the sheath from the elongate member through proximal retraction of the sheath through the side port.

9. The torque device of claim 8, wherein the sheath includes a split seam extending therethrough from the proximal end to a location proximal to the distal end portion to cause the sheath to shear as the sheath is pulled through the side port.

10. The torque device of claim 8, wherein the torque device includes an extension arm extending from the handle which includes a distal end having an opening adapted to receive both the guide wire and the sheath, the distal end of the extension arm being disposed longitudinally away from the side port.

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11. The torque device of claim 8, wherein the torque device includes a distal tubular member attached to and extending from the handle having a lumen aligned with and in communication with the lumen of the handle, the distal tubular member being adapted to receive the guide wire and sheath, the side port of the torque device being attached to the distal tubular member.

12. The torque device of claim 10, further including a tubular member extending distally from the distal end of the extension arm which includes a lumen aligned with and in communication with the opening of the distal end that is adapted to receive the guide wire and sheath.

13. The torque device of claim 10, wherein the opening of the distal end of the extension arm is aligned with the lumen of the handle.

14. The torque device of claim 10, wherein the side port is aligned offset from the opening of the distal end of the extension arm.